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MPSRCH (TM)

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Release 3.1A John F. Collins, Biocomputing Research Unit.

MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Sat Apr 15 00:24:38 2000; MasPar time 1.75 Seconds
76.070 Million cell updates/sec

Tabular output not generated.

Title: >US-08-452-843-14
Description: (1-10) from US08452843.pep
Perfect Score: 74
Sequence: 1 APAPAPSWPL 10

Scoring table: PAM 150
Gap 15

Searched: 134018 seqs, 13297625 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-issued
1:5A_COMB 2:5B_COMB 3:6_COMB 4:PCT9_COMB 5:backfiles1

Statistics: Mean 15.375; Variance 71.713; scale 0.214

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description	Pred. No.
1	74	100.0	363	2	US-08-697-	Sequence 23, Applicati	4.17e+00
2	74	100.0	363	2	US-08-697-	Sequence 20, Applicati	4.17e+00
3	74	100.0	363	2	US-08-697-	Sequence 22, Applicati	4.17e+00
4	74	100.0	363	2	US-08-697-	Sequence 18, Applicati	4.17e+00
5	74	100.0	363	2	US-08-697-	Sequence 24, Applicati	4.17e+00
6	74	100.0	363	2	US-08-697-	Sequence 21, Applicati	4.17e+00
7	74	100.0	363	2	US-08-697-	Sequence 17, Applicati	4.17e+00
8	74	100.0	363	2	US-08-697-	Sequence 19, Applicati	4.17e+00
9	74	100.0	393	1	US-08-390-	Sequence 9, Applicatio	4.17e+00
10	74	100.0	393	2	US-08-697-	Sequence 16, Applicati	4.17e+00
11	74	100.0	393	2	US-08-697-	Sequence 2, Applicatio	4.17e+00
12	74	100.0	393	1	US-08-390-	Sequence 7, Applicatio	4.17e+00
13	74	100.0	393	1	US-08-431-	Sequence 2, Applicatio	4.17e+00
14	74	100.0	393	1	US-08-347-	Sequence 2, Applicatio	4.17e+00
15	74	100.0	393	2	US-08-697-	Sequence 27, Applicati	4.17e+00
16	74	100.0	393	2	US-08-697-	Sequence 3, Applicatio	4.17e+00
17	74	100.0	393	2	US-08-697-	Sequence 28, Applicati	4.17e+00
18	74	100.0	393	2	US-08-801-	Sequence 8, Applicatio	4.17e+00
19	74	100.0	393	1	US-08-047-	Sequence 27, Applicati	4.17e+00
20	74	100.0	393	1	US-08-047-	Sequence 28, Applicati	4.17e+00
21	74	100.0	393	2	US-08-801-	Sequence 7, Applicatio	4.17e+00
22	74	100.0	393	2	US-08-801-	Sequence 6, Applicatio	4.17e+00
23	74	100.0	393	2	US-08-801-	Sequence 9, Applicatio	4.17e+00
24	74	100.0	393	2	US-08-697-	Sequence 12, Applicati	4.17e+00
25	74	100.0	393	1	US-08-390-	Sequence 6, Applicatio	4.17e+00
26	74	100.0	393	4	PCT-US95-1	Sequence 2, Applicatio	4.17e+00
27	74	100.0	393	2	US-08-697-	Sequence 26, Applicati	4.17e+00
28	74	100.0	393	2	US-08-795-	Sequence 32, Applicati	4.17e+00
29	74	100.0	393	2	US-08-697-	Sequence 4, Applicatio	4.17e+00
30	74	100.0	393	2	US-08-697-	Sequence 15, Applicati	4.17e+00
31	74	100.0	393	1	US-08-390-	Sequence 9, Applicatio	4.17e+00
32	74	100.0	393	1	US-08-390-	Sequence 7, Applicatio	4.17e+00
33	74	100.0	393	1	US-08-390-	Sequence 8, Applicatio	4.17e+00
34	74	100.0	393	2	US-08-675-	Sequence 1, Applicatio	4.17e+00
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36	74	100.0	393	2	US-08-697-	Sequence 11, Applicati	4.17e+00
37	74	100.0	393	2	US-08-247-	Sequence 12, Applicati	4.17e+00
38	74	100.0	393	2	US-08-697-	Sequence 14, Applicati	4.17e+00
39	74	100.0	393	2	US-08-697-	Sequence 13, Applicati	4.17e+00
40	74	100.0	393	2	US-08-697-	Sequence 25, Applicati	4.17e+00
41	74	100.0	393	1	US-08-390-	Sequence 8, Applicatio	4.17e+00
42	74	100.0	393	1	US-08-047-	Sequence 26, Applicati	4.17e+00
43	74	100.0	393	1	US-08-047-	Sequence 25, Applicati	4.17e+00
44	74	100.0	439	2	US-08-959-	Sequence 9, Applicatio	4.17e+00
45	63	85.1	390	1	US-08-431-	Sequence 15, Applicati	3.13e+01

ALIGNMENTS

RESULT 1
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DE Sequence 23, Application US/08697221
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CC Sequence 23, Application US/08697221
CC Patent No. 5847083
CC GENERAL INFORMATION:
CC APPLICANT: Halazonetis, Thanos D.
CC TITLE OF INVENTION: Modified p53 Constructs and Uses
CC TITLE OF INVENTION: Therefor
CC NUMBER OF SEQUENCES: 33
CC CORRESPONDENCE ADDRESS:
CC ADDRESSEE: Howson and Howson
CC STREET: Spring House Corporate Cntr., PO Box 457
CC CITY: Spring House
CC STATE: Pennsylvania
CC COUNTRY: USA
CC ZIP: 19477
CC COMPUTER READABLE FORM:
CC MEDIUM TYPE: Floppy disk
CC COMPUTER: IBM PC compatible
CC OPERATING SYSTEM: PC-DOS/MS-DOS
CC SOFTWARE: PatentIn Release #1.0, Version #1.30
CC CURRENT APPLICATION DATA:
CC APPLICATION NUMBER: US/08/697,221
CC FILING DATE:
CC CLASSIFICATION: 530
CC PRIOR APPLICATION DATA:
CC APPLICATION NUMBER: US 60/004,802
CC FILING DATE: 22-SEP-1995
CC ATTORNEY/AGENT INFORMATION:
CC NAME: Kodroff, Cathy A.
CC REGISTRATION NUMBER: 33,980
CC REFERENCE/DOCKET NUMBER: WST64AUSA
CC TELECOMMUNICATION INFORMATION:
CC TELEPHONE: 215-540-9206
CC TELEFAX: 215-540-5818
CC INFORMATION FOR SEQ ID NO: 23:
CC SEQUENCE CHARACTERISTICS:
CC LENGTH: 363 amino acids
CC TYPE: amino acid
CC STRANDEDNESS:

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CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40264 MW; 656560 CN;

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  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db     84 APAPAPSWPL 93
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Qy      1 APAPAPSWPL 10


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DE   Sequence 20, Application US/08697221
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CC    Sequence 20, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  20:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40344 MW; 652473 CN;

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Db     84 APAPAPSWPL 93
          ||||||||||
Qy      1 APAPAPSWPL 10


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DE   Sequence 22, Application US/08697221
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CC    Sequence 22, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  22:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40353 MW; 653392 CN;

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Db     84 APAPAPSWPL 93
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Qy      1 APAPAPSWPL 10


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CC    Sequence 18, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
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CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  18:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40372 MW; 651481 CN;

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  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches   10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


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DE   Sequence 24, Application US/08697221
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CC    Sequence 24, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  24:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40319 MW; 652300 CN;

  Query Match          100.0%;  Score 74;  DB 2;  Length 363;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches   10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


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DE   Sequence 21, Application US/08697221
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CC    Sequence 21, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
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CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  21:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40298 MW; 657652 CN;

  Query Match          100.0%;  Score 74;  DB 2;  Length 363;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches   10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


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DE   Sequence 17, Application US/08697221
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CC    Sequence 17, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  17:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40317 MW; 655741 CN;

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  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
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Db      84 APAPAPSWPL 93
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Qy       1 APAPAPSWPL 10


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DE   Sequence 19, Application US/08697221
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CC    Sequence 19, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  19:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  363 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   363 AA; 40289 MW; 656733 CN;

  Query Match          100.0%;  Score 74;  DB 2;  Length 363;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches   10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

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Qy       1 APAPAPSWPL 10


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DE   Sequence 9, Application US/08390516C
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CC    Sequence 9, Application US/08390516C
CC    Patent No. 5708136
CC     GENERAL INFORMATION:
CC       APPLICANT:  BURRELL, MARILEE
CC       APPLICANT:  HILL, DAVID E.
CC       APPLICANT:  KINZLER, KENNETH W.
CC       APPLICANT:  VOGELSTEIN, BERT
CC       TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
CC       TITLE OF INVENTION:  HUMAN TUMORS
CC       NUMBER OF SEQUENCES:  9
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
CC         STREET:  1001 G STREET, N.W.
CC         CITY:  WASHINGTON
CC         STATE:  D.C.
CC         COUNTRY:  USA
CC         ZIP:  20001
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
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CC         SOFTWARE:  PatentIn Release #1.0, Version #1.25
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/390,516C
CC         FILING DATE:  07-APR-1993
CC         CLASSIFICATION:  530
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  KAGAN, SARAH A.
CC         REGISTRATION NUMBER:  32,141
CC         REFERENCE/DOCKET NUMBER:  01107.42798
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  202-508-9100
CC         TELEFAX:  202-508-9299
CC         TELEX:  197430 BBMB UT
CC     INFORMATION FOR SEQ ID NO:  9:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  393 amino acids
CC         TYPE:  amino acid
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
CC       HYPOTHETICAL:  YES
CC       ANTI-SENSE:  NO
CC       ORIGINAL SOURCE:
CC         ORGANISM:  Homo sapiens
CC       PUBLICATION INFORMATION:
CC         AUTHORS:  Lamb, P.
CC         AUTHORS:  Crawford, L.
CC         JOURNAL:  Mol. Cell. Biol.
CC         VOLUME:  6
CC         ISSUE:  5
CC         PAGES:  1379-1385
CC         DATE:  1986
SQ   SEQUENCE   393 AA; 43698 MW; 781342 CN;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches   10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
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Qy       1 APAPAPSWPL 10


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AC   xxxxxx
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DE   Sequence 16, Application US/08697221
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CC    Sequence 16, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  16:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  393 amino acids
CC         TYPE:  amino acid
CC         STRANDEDNESS:
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   393 AA; 43655 MW; 778305 CN;

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Db      84 APAPAPSWPL 93
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Qy       1 APAPAPSWPL 10


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DE   Sequence 2, Application US/08697221
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CC    Sequence 2, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
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CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.30
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  2:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  393 amino acids
CC         TYPE:  amino acid
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   393 AA; 43653 MW; 781746 CN;

  Query Match          100.0%;  Score 74;  DB 2;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
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Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


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CC    Sequence 7, Application US/08390515A
CC    Patent No. 5756455
CC     GENERAL INFORMATION:
CC       APPLICANT:  BURRELL, MARILEE
CC       APPLICANT:  HILL, DAVID E.
CC       APPLICANT:  KINZLER, KENNETH W.
CC       APPLICANT:  VOGELSTEIN, BERT
CC       TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
CC       TITLE OF INVENTION:  HUMAN TUMORS
CC       NUMBER OF SEQUENCES:  9
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
CC         STREET:  1001 G STREET, N.W.
CC         CITY:  WASHINGTON
CC         STATE:  D.C.
CC         COUNTRY:  USA
CC         ZIP:  20001
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.25
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/390,515A
CC         FILING DATE:  07-APR-1993
CC         CLASSIFICATION:  514
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  KAGAN, SARAH A.
CC         REGISTRATION NUMBER:  32,141
CC         REFERENCE/DOCKET NUMBER:  01107.42798
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  202-508-9100
CC         TELEFAX:  202-508-9299
CC         TELEX:  197430 BBMB UT
CC     INFORMATION FOR SEQ ID NO:  7:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  393 amino acids
CC         TYPE:  amino acid
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
CC       HYPOTHETICAL:  YES
CC       ANTI-SENSE:  NO
CC       ORIGINAL SOURCE:
CC         ORGANISM:  Homo sapiens
CC       PUBLICATION INFORMATION:
CC         AUTHORS:  Harris, et al.,
CC         JOURNAL:  Mol. Cell. Biol.
CC         VOLUME:  6
CC         ISSUE:  12
CC         PAGES:  4650-4656
CC         DATE:  1986
SQ   SEQUENCE   393 AA; 43742 MW; 782074 CN;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


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AC   xxxxxx
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DT
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DE   Sequence 2, Application US/08431357
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CC    Sequence 2, Application US/08431357
CC    Patent No. 5721340
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  p53 Proteins With Altered
CC       TITLE OF INVENTION:  Tetramerization Domains
CC       NUMBER OF SEQUENCES:  37
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.25
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/431,357
CC         FILING DATE:
CC         CLASSIFICATION:  435
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 08/347,792
CC         FILING DATE:  28-NOV-1994
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CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Bak, Mary E.
CC         REGISTRATION NUMBER:  31,215
CC         REFERENCE/DOCKET NUMBER:  WST58USA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  2:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  393 amino acids
CC         TYPE:  amino acid
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   393 AA; 43653 MW; 781746 CN;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


RESULT   14
ID   US-08-347-792-2     STANDARD;     PRT;   393 AA.
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AC   xxxxxx
XX
DT
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DE   Sequence 2, Application US/08347792
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CC    Sequence 2, Application US/08347792
CC    Patent No. 5573925
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  p53 Proteins With Altered
CC       TITLE OF INVENTION:  Tetramerization Domains
CC       NUMBER OF SEQUENCES:  37
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
CC         ZIP:  19477
CC       COMPUTER READABLE FORM:
CC         MEDIUM TYPE:  Floppy disk
CC         COMPUTER:  IBM PC compatible
CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
CC         SOFTWARE:  PatentIn Release #1.0, Version #1.25
CC       CURRENT APPLICATION DATA:
CC         APPLICATION NUMBER:  US/08/347,792
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Bak, Mary E.
CC         REGISTRATION NUMBER:  31,215
CC         REFERENCE/DOCKET NUMBER:  WST58USA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  2:
CC       SEQUENCE CHARACTERISTICS:
CC         LENGTH:  393 amino acids
CC         TYPE:  amino acid
CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   393 AA; 43653 MW; 781746 CN;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 4.17e+00;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


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DT
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DE   Sequence 27, Application US/08697221
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CC    Sequence 27, Application US/08697221
CC    Patent No. 5847083
CC     GENERAL INFORMATION:
CC       APPLICANT:  Halazonetis, Thanos D.
CC       TITLE OF INVENTION:  Modified p53 Constructs and Uses
CC       TITLE OF INVENTION:  Therefor
CC       NUMBER OF SEQUENCES:  33
CC       CORRESPONDENCE ADDRESS:
CC         ADDRESSEE:  Howson and Howson
CC         STREET:  Spring House Corporate Cntr., PO Box 457
CC         CITY:  Spring House
CC         STATE:  Pennsylvania
CC         COUNTRY:  USA
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CC         MEDIUM TYPE:  Floppy disk
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CC         OPERATING SYSTEM:  PC-DOS/MS-DOS
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CC         APPLICATION NUMBER:  US/08/697,221
CC         FILING DATE:
CC         CLASSIFICATION:  530
CC       PRIOR APPLICATION DATA:
CC         APPLICATION NUMBER:  US 60/004,802
CC         FILING DATE:  22-SEP-1995
CC       ATTORNEY/AGENT INFORMATION:
CC         NAME:  Kodroff, Cathy A.
CC         REGISTRATION NUMBER:  33,980
CC         REFERENCE/DOCKET NUMBER:  WST64AUSA
CC       TELECOMMUNICATION INFORMATION:
CC         TELEPHONE:  215-540-9206
CC         TELEFAX:  215-540-5818
CC     INFORMATION FOR SEQ ID NO:  27:
CC       SEQUENCE CHARACTERISTICS:
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CC         TOPOLOGY:  linear
CC       MOLECULE TYPE:  protein
SQ   SEQUENCE   393 AA; 43584 MW; 785232 CN;

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Db      84 APAPAPSWPL 93
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Qy       1 APAPAPSWPL 10


Search completed: Sat Apr 15 00:24:44 2000
Job time : 6 secs.
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MPSRCH (TM)

****

MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Sat Apr 15 00:21:15 2000; MasPar time 3.15 Seconds
127.402 Million cell updates/sec

Tabular output not generated.

Title: >US-08-452-843-14
Description: (1-10) from US08452843.pep
Perfect Score: 74
Sequence: 1 APAPAPSWPL 10

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir62
1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 22.950; Variance 44.615; scale 0.514

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description	Pred. No.
1	74	100.0	393	1	DNHU53	cellular tumor antige	2.40e-02
2	74	100.0	393	2	S06594	cellular tumor antige	2.40e-02
3	66	89.2	391	2	JC6193	tumor suppressor p53	4.46e-01
4	64	86.5	386	2	S51648	cellular tumor antige	9.07e-01
5	63	85.1	381	2	S38824	cellular tumor antige	1.29e+00
6	63	85.1	390	1	DNMS53	cellular tumor antige	1.29e+00
7	58	78.4	1615	3	JE0329	low density lipoprote	7.17e+00
8	58	78.4	1615	3	JE0372	low density lipoprote	7.17e+00
9	56	75.7	391	2	S02192	cellular tumor antige	1.40e+01
10	56	75.7	393	2	JC6176	tumor suppressor prot	1.40e+01
11	56	75.7	396	2	JH0633	cellular tumor antige	1.40e+01
12	56	75.7	564	2	B43776	drebrin E1 - chicken	1.40e+01
13	56	75.7	593	2	I51213	drebrin - chicken (fr	1.40e+01
14	56	75.7	607	2	A43776	drebrin E2 - chicken	1.40e+01
15	56	75.7	781	2	T00456	probable protein kina	1.40e+01
16	56	75.7	837	2	C69187	conserved hypothetica	1.40e+01
17	56	75.7	2554	1	TVFF7L	kinase-related protei	1.40e+01
18	55	74.3	27	2	F39690	neural cell adhesion	1.94e+01
19	55	74.3	66	2	B23727	neurotoxin V-4 - bark	1.94e+01
20	55	74.3	814	2	G02390	disintegrin and metal	1.94e+01
21	55	74.3	1937	2	T03224	probable polyketide s	1.94e+01
22	54	73.0	212	1	ANHU1	endothelin 1 precurso	2.69e+01
23	54	73.0	268	2	A49303	homeotic protein Cdx-	2.69e+01
24	54	73.0	440	2	A44081	kappa-type opioid rec	2.69e+01
25	53	71.6	311	2	A53808	homeotic protein cdx-	3.72e+01
26	53	71.6	339	2	T02860	probable membrane pro	3.72e+01
27	53	71.6	440	2	S65358	familial Alzheimer's	3.72e+01
28	53	71.6	495	2	S32179	hypothetical protein	3.72e+01
29	53	71.6	542	2	T02379	hypothetical protein	3.72e+01
30	53	71.6	605	2	A48665	methylmalonyl-CoA car	3.72e+01
31	53	71.6	903	2	T00705	N-chimerin homolog F2	3.72e+01
32	52	70.3	681	2	I38755	transcription factor	5.12e+01
33	51	68.9	257	2	B70702	hypothetical protein	7.02e+01
34	51	68.9	291	2	E31844	spdB protein - Strept	7.02e+01
35	51	68.9	464	2	A43625	protein-tyrosine kina	7.02e+01
36	51	68.9	472	2	S36548	L2 protein - human pa	7.02e+01
37	51	68.9	550	1	VGBE18	glycoprotein E - huma	7.02e+01
38	51	68.9	864	2	A48266	protein-tyrosine kina	7.02e+01
39	51	68.9	2411	2	A46299	tyrosine kinase subst	7.02e+01
40	50	67.6	204	2	S18657	hypothetical protein	9.59e+01
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42	50	67.6	332	2	A45094	glycogenin glucosyltr	9.59e+01
43	50	67.6	333	2	JC4695	glycogenin glucosyltr	9.59e+01
44	50	67.6	415	2	B70626	hypothetical protein	9.59e+01
45	50	67.6	1839	1	RRWPEM	genome polyprotein -	9.59e+01

ALIGNMENTS

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TITLE cellular tumor antigen p53 - human
ALTERNATE_NAMES cellular phosphoprotein p53; oncoprotein p53; transformation suppressor p53; tumor suppressor p53
ORGANISM #formal_name Homo sapiens #common_name man
DATE 05-Oct-1988 #sequence_revision 18-Nov-1994 #text_change 26-Feb-1999
ACCESSIONS A25224; A43073; JT0436; S40773; S42669; A22837; A55060; A25397; B25397; S42452; S42453; I38082; I38083; I38084; I38085; I38086; I38087; I38088; I38089; I38090; I38091; I38092; I38093; A44905; I58354; I78850; I52681; S60153
REFERENCE A25224
#authors Lamb, P.; Crawford, L.
#journal Mol. Cell. Biol. (1986) 6:1379-1385
#title Characterization of the human p53 gene.
#cross-references MUID:87064416
#accession A25224
##molecule_type DNA
##residues 1-393 ##label LAM
##cross-references EMBL:X01405; GB:M13121; GB:N00032; NID:g189460; PID:g386994
REFERENCE JT0436
#authors Buchman, V.L.; Chumakov, P.M.; Ninkina, N.N.; Samarina, O.P.; Georgiev, G.P.
#journal Gene (1988) 70:245-252
#title A variation in the structure of the protein-coding region of the human p53 gene.
#cross-references MUID:89108008
#accession A43073
##molecule_type DNA
##residues 1-393 ##label BUC1
##cross-references EMBL:M22898; NID:g189474
##note this 72-Arg allele appears to be about 5 times more frequent than the 72-Pro allele
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##cross-references EMBL:M22898; NID:g189474; PID:g189476
##note this 72-Pro allele was found in both normal and malignant cell lines
REFERENCE S40773
#authors Chumakov, P.M.; Almazov, V.P.; Jenkins, J.R.
#submission submitted to the EMBL Data Library, August 1990
#accession S40773
##molecule_type DNA
##residues 1-393 ##label CHU

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      ##cross-references EMBL:X54156; NID:g35213; PID:g35214
REFERENCE        S42669
   #authors      Matlashewski, G.; Lamb, P.; Pim, D.; Peacock, J.; Crawford,
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   #journal      EMBO J. (1984) 3:3257-3262
   #title        Isolation and characterization of a human p53 cDNA clone:
                   expression of the human p53 gene.
   #cross-references MUID:85126934
   #accession    S42669
      ##molecule_type mRNA
      ##residues      101-393 ##label MKI1
      ##cross-references EMBL:X01405; NID:g35215; PID:g642241
REFERENCE        A22837
   #authors      Zakut-Houri, R.; Bienz-Tadmor, B.; Givol, D.; Oren, M.
   #journal      EMBO J. (1985) 4:1251-1255
   #title        Human p53 cellular tumor antigen: cDNA sequence and
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   #cross-references MUID:85230577
   #accession    A22837
      ##molecule_type mRNA
      ##residues      1-71,'P',73-393 ##label ZAK
      ##cross-references EMBL:X02469; EMBL:M60950; NID:g35209; PID:g35210
REFERENCE        A55060
   #authors      Harlow, E.; Williamson, N.M.; Ralston, R.; Helfman, D.M.;
                   Adams, T.E.
   #journal      Mol. Cell. Biol. (1985) 5:1601-1610
   #title        Molecular cloning and in vitro expression of a cDNA clone for
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REFERENCE        A93086
   #authors      Harris, N.; Brill, E.; Shohat, O.; Prokocimer, M.; Wolf, D.;
                   Arai, N.; Rotter, V.
   #journal      Mol. Cell. Biol. (1986) 6:4650-4656
   #title        Molecular basis for heterogeneity of the human p53 protein.
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REFERENCE        S42452
   #authors      Matlashewski, G.J.; Tuck, S.; Pim, D.; Lamb, P.; Schneider,
                   J.; Crawford, L.V.
   #journal      Mol. Cell. Biol. (1987) 7:961-963
   #title        Primary structure polymorphism at amino acid residue 72 of
                   human p53.
   #cross-references MUID:87144273
   #accession    S42452
      ##molecule_type mRNA; DNA
      ##residues      66-71,'P',73-79 ##label MKI2
      ##experimental_source clone lambda C113
      ##note          72-Cys was also found, and appears to represent a
                        polymorphism
   #accession    S42453
      ##molecule_type mRNA; DNA
      ##residues      66-79 ##label MKI3
      ##experimental_source clone J6K
REFERENCE        I38082
   #authors      Farrell, P.J.; Allan, G.J.; Shanahan, F.; Vousden, K.H.;
                   Crook, T.
   #journal      EMBO J. (1991) 10:2879-2887
   #title        p53 is frequently mutated in Burkitt's lymphoma cell lines.
   #cross-references MUID:92007731
   #accession    I38082
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-189,'LLSILSEWKEICVWSIWMTETLFDIVWWCPMSRLRLALT',
                        'VPPSTTTTCVTVPAWAA' ##label F01
      ##cross-references EMBL:X60010; NID:g506432; PID:g506433
      ##note          deletion of a C nucleotide causes a frameshift at
                        position 566
   #accession    I38083
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-192,'R',194-393 ##label F02
      ##cross-references EMBL:X60011; NID:g506434; PID:g506435
   #accession    I38084
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-393 ##label F03
      ##cross-references EMBL:X60012; NID:g506436; PID:g506437
   #accession    I38085
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-245,'T',247-393 ##label F04
      ##cross-references EMBL:X60013; NID:g506438; PID:g506439
   #accession    I38086
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-236,'I',238-393 ##label F05
      ##cross-references EMBL:X60014; NID:g506440; PID:g506441
   #accession    I38087
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-247,'Q',249-393 ##label F06
      ##cross-references EMBL:X60015; NID:g506442; PID:g506443
   #accession    I38088
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-71,'P',73-237,'Y',239-393 ##label F07
      ##cross-references EMBL:X60016; NID:g506444; PID:g506445
   #accession    I38089
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-247,'Q',249-393 ##label F08
      ##cross-references EMBL:X60017; NID:g506446; PID:g506447
   #accession    I38090
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-71,'P',73-162,'H',164-393 ##label F09
      ##cross-references EMBL:X60018; NID:g506448; PID:g506449
   #accession    I38091
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-212,'Q',214-393 ##label F10
      ##cross-references EMBL:X60019; NID:g506450; PID:g506451
   #accession    I38092
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-253,'D',255-393 ##label F11
      ##cross-references EMBL:X60020; NID:g506452; PID:g506453
      ##note          all sequences submitted to the EMBL/GenBank/DDBJ
                        databases June 1991
REFERENCE        I38093
   #authors      Futreal, P.A.; Barrett, J.C.; Wiseman, R.W.
   #journal      Nucleic Acids Res. (1991) 19:6977
   #title        An Alu polymorphism intragenic to the TP53 gene.
   #cross-references MUID:92107726
   #accession    I38093
      ##status        translated from GB/EMBL/DDBJ
      ##molecule_type DNA
      ##residues      1-393 ##label FUT
      ##cross-references EMBL:X54156; NID:g35213; PID:g35214
REFERENCE        A44905
```

```
  #authors       Yamada, Y.; Yoshida, T.; Hayashi, K.; Sekiya, T.; Yokota, J.;
                   Hirohashi, S.; Nakatani, K.; Nakano, H.; Sugimura, T.;
                   Terada, M.
  #journal       Cancer Res. (1991) 51:5800-5805
  #title         p53 gene mutations in gastric cancer metastases and in
                   gastric cancer cell lines derived from metastases.
  #cross-references MUID:92034678
  #accession     A44905
...
Note: remainder of annotations omitted.

  Query Match           100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 2.40e-02;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


RESULT    2
ENTRY             S06594     #type complete
TITLE             cellular tumor antigen p53 - green monkey
ORGANISM          #formal_name Cercopithecus aethiops #common_name green
                    monkey, grivet
DATE              28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change
                    08-Sep-1997
ACCESSIONS        S06594
REFERENCE         S06594
   #authors       Rigaudy, P.; Eckhart, W.
   #journal       Nucleic Acids Res. (1989) 17:8375
   #title         Nucleotide sequence of a cDNA encoding the monkey cellular
                    phosphoprotein p53.
   #cross-references MUID:90045967
   #accession     S06594
      ##molecule_type mRNA
      ##residues      1-393 ##label RIG
      ##cross-references EMBL:X16384; NID:g22795; PID:g22796
CLASSIFICATION    #superfamily cellular tumor antigen p53
KEYWORDS          apoptosis; cell division control; DNA binding; homotetramer;
                    nucleus; phosphoprotein; transcription regulation; tumor
                    suppressor; zinc

FEATURE
   176,179,238,242     #binding_site zinc (Cys, His, Cys, Cys) #status
                         predicted\
   392                 #binding_site phosphoryl-RNA (Ser) (covalent) #status
                         predicted
SUMMARY           #length 393  #molecular-weight 43696  #checksum 4263

  Query Match           100.0%;  Score 74;  DB 2;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 2.40e-02;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db      84 APAPAPSWPL 93
           ||||||||||
Qy       1 APAPAPSWPL 10


RESULT    3
ENTRY             JC6193     #type complete
TITLE             tumor suppressor p53 - rabbit
ORGANISM          #formal_name Oryctolagus cuniculus #common_name domestic
                    rabbit
DATE              11-Apr-1997 #sequence_revision 09-May-1997 #text_change
                    17-Mar-1999
ACCESSIONS        JC6193
REFERENCE         JC6193
   #authors       Le Goas, F.; May, P.; Ronco, P.; de Fromentel, C.C.
   #journal       Gene (1997) 185:169-173
   #title         cDNA cloning and immunological characterization of rabbit
                    p53.
   #cross-references MUID:97208869
   #accession     JC6193
      ##molecule_type mRNA
      ##residues      1-391 ##label LEA
      ##cross-references EMBL:X90592; NID:g1532043; PID:e194962; PID:g1532044
GENETICS
   #gene          p53
CLASSIFICATION    #superfamily cellular tumor antigen p53
KEYWORDS          tumor
SUMMARY           #length 391  #molecular-weight 43435  #checksum 4367

  Query Match           89.2%;  Score 66;  DB 2;  Length 391;
  Best Local Similarity 90.0%;  Pred. No. 4.46e-01;
  Matches     9;  Conservative    0;  Mismatches   1;  Indels   0;  Gaps   0;

Db      81 APAPATSWPL 90
           ||||| ||||
Qy       1 APAPAPSWPL 10


RESULT    4
ENTRY             S51648     #type complete
TITLE             cellular tumor antigen p53 - bovine
ALTERNATE_NAMES   tumor-suppressor protein p53
ORGANISM          #formal_name Bos primigenius taurus #common_name cattle
DATE              07-May-1995 #sequence_revision 01-Sep-1995 #text_change
                    08-Sep-1997
ACCESSIONS        S51648
REFERENCE         S51648
   #authors       Dequiedt, F.; Willems, L.; Burny, A.; Kettmann, R.
   #submission    submitted to the EMBL Data Library, September 1994
   #description   Nucleotide sequence of the ovine p53 tumor-suppressor gene
                    cDNA and its genomic organisation.
   #accession     S51648
      ##status        preliminary
      ##molecule_type mRNA
      ##residues      1-386 ##label DEQ
      ##cross-references EMBL:X81704; NID:g602332; PID:g602333
CLASSIFICATION    #superfamily cellular tumor antigen p53
KEYWORDS          apoptosis; cell division control; DNA binding; homotetramer;
                    phosphoprotein; transcription regulation; tumor suppressor;
                    zinc

FEATURE
   168,171,231,235     #binding_site zinc (Cys, His, Cys, Cys) #status
                         predicted\
   385                 #binding_site phosphoryl-RNA (Ser) (covalent) #status
                         predicted
SUMMARY           #length 386  #molecular-weight 43255  #checksum 7025

  Query Match           86.5%;  Score 64;  DB 2;  Length 386;
  Best Local Similarity 80.0%;  Pred. No. 9.07e-01;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db      76 TPAPATSWPL 85
           :|||| ||||
Qy       1 APAPAPSWPL 10


RESULT    5
ENTRY             S38824     #type complete
TITLE             cellular tumor antigen p53, minor splice form - mouse
ORGANISM          #formal_name Mus musculus #common_name house mouse
DATE              13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change
                    17-Mar-1999
ACCESSIONS        S38824; S35478
REFERENCE         S38822
   #authors       Arai, N.; Nomura, D.; Yokota, K.; Wolf, D.; Brill, E.;
                    Shohat, O.; Rotter, V.
   #journal       Mol. Cell. Biol. (1986) 6:3232-3239
   #title         Immunologically distinct p53 molecules generated by
                    alternative splicing.
   #cross-references MUID:87064640
   #accession     S38824
      ##molecule_type mRNA
      ##residues      1-381 ##label ARA
```

```
      ##cross-references GB:M13874; NID:g200202; PID:g200203
REFERENCE        S35478
   #authors      Han, K.A.; Kulesz-Martin, M.F.
   #journal      Nucleic Acids Res. (1992) 20:1979-1981
   #title        Alternatively spliced p53 RNA in transformed and normal cells
                  of different tissue types.
   #cross-references MUID:92253421
   #accession    S35478
      ##status        nucleic acid sequence not shown; translation not shown
      ##molecule_type mRNA
      ##residues      1-381 ##label HAN
      ##cross-references EMBL:M13874; NID:g200202; PID:g200203
      ##note          the nucleotide sequence was submitted to the EMBL Data
                       Library, July 1988
COMMENT     This sequence, produced by alternative splicing of the tenth
            intron, lacks the carboxyl-terminal sequence necessary for
            covalent attachment of RNA. The function of this minor splice
            form is not known.
CLASSIFICATION   #superfamily cellular tumor antigen p53
KEYWORDS         alternative splicing; phosphoprotein; zinc
FEATURE
   1-44                #domain transcription activation #status predicted
                         #label TRA\
   16-26               #region conserved region I\
   99-289              #domain DNA-binding core #status predicted #label DBC\
   108-121             #region L1 loop\
   114-139             #region conserved region II\
   160-192             #region L2 loop\
   168-178             #region conserved region III\
   231-252             #region conserved region IV\
   233-248             #region L3 loop\
   267-283             #region conserved region V\
   313-319             #region nuclear location signal\
   319-357             #region tetramer association\
   7,9,12,18,23,37     #binding_site phosphate (Ser) (covalent) #status
                         predicted\
   173,176,235,239     #binding_site zinc (Cys, His, Cys, Cys) #status
                         predicted\
   312                 #binding_site phosphate (Ser) (covalent) (by cdc2
                         kinase) #status predicted
SUMMARY          #length 381  #molecular-weight 42498  #checksum 8703

  Query Match            85.1%;  Score 63;  DB 2;  Length 381;
  Best Local Similarity  80.0%;  Pred. No. 1.29e+00;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db      81 APAPATPWPL 90
           ||||| :|||
Qy       1 APAPAPSWPL 10


RESULT    6
ENTRY            DNMS53     #type complete
TITLE            cellular tumor antigen p53 - mouse
ALTERNATE_NAMES  oncoprotein p53
ORGANISM         #formal_name Mus musculus #common_name house mouse
DATE             28-Aug-1985 #sequence_revision 04-Oct-1996 #text_change
                   12-Feb-1999
ACCESSIONS       A22739; S06336; A02684; S38822; S38823; S40014; I48703
REFERENCE        A22739
   #authors      Bienz, B.; Zakut-Houri, R.; Givol, D.; Oren, M.
   #journal      EMBO J. (1984) 3:2179-2183
   #cross-references MUID:85027173
   #accession    A22739
      ##molecule_type DNA
      ##residues      1-134,'V',136-390 ##label BIE
      ##cross-references GB:X00876; NID:g871420; PID:g871421; GB:X01237;
                        GB:K01700; NID:g53575; PID:g53576
REFERENCE        S06336
   #authors      Chumakov, P.M.
   #journal      Bioorg. Khim. (1987) 13:1691-1694
   #title        Primary structure of DNA complementary to murine oncoprotein
                   p53 mRNA.
      #cross-references MUID:88221682
      #accession    S06336
         ##status          not compared with conceptual translation
         ##molecule_type mRNA
         ##residues      1-134,'V',136-390 ##label CHU
REFERENCE        A02684
   #authors      Zakut-Houri, R.; Oren, M.; Bienz, B.; Lavie, V.; Hazum, S.;
                   Givol, D.
   #journal      Nature (1983) 306:594-597
   #title        A single gene and a pseudogene for the cellular tumour
                   antigen p53.
   #cross-references MUID:84068204
   #accession    A02684
      ##molecule_type mRNA
      ##residues      1-159,'H',161-167,'G',169-233,'I',235-390 ##label ZAK
      ##cross-references GB:X01237; GB:K01700; NID:g53575
REFERENCE        S38822
   #authors      Arai, N.; Nomura, D.; Yokota, K.; Wolf, D.; Brill, E.;
                   Shohat, O.; Rotter, V.
   #journal      Mol. Cell. Biol. (1986) 6:3232-3239
   #title        Immunologically distinct p53 molecules generated by
                   alternative splicing.
   #cross-references MUID:87064640
   #accession    S38822
      ##status          preliminary
      ##molecule_type mRNA
      ##residues      1-390 ##label ARA1
      ##cross-references EMBL:M13872; NID:g200198; PID:g200199
   #accession    S38823
      ##status          preliminary
      ##molecule_type mRNA
      ##residues      1-167,'G',169-233,'I',235-390 ##label ARA2
      ##cross-references EMBL:M13873
REFERENCE        S40014
   #authors      Arai, N.; Nomura, D.; Yokota, K.; Wolf, D.; Brill, E.;
                   Shohat, O.; Rotter, V.
   #submission   submitted to the EMBL Data Library, July 1988
   #accession    S40014
      ##molecule_type mRNA
      ##residues      1-167,'G',169-390 ##label ARA3
      ##cross-references EMBL:M13873; NID:g200200; PID:g200201
REFERENCE        I48703
   #authors      Jenkins, J.R.; Rudge, K.; Redmond, S.; Wade-Evans, A.
   #journal      Nucleic Acids Res. (1984) 12:5609-5626
   #title        Cloning and expression analysis of full length mouse cDNA
                   sequences encoding the transformation associated protein
                   p53.
   #cross-references MUID:84272240
   #accession    I48703
      ##status          preliminary; translated from GB/EMBL/DDBJ
      ##molecule_type mRNA
      ##residues      1-47,'R',49-78,'QW',82-390 ##label RES
      ##cross-references EMBL:X00741; NID:g53570; PID:g53571
COMMENT     This DNA-binding protein plays an essential role in the regulation
              of cell division, as it is required for the transition from phase
              G0 to G1 of the cell cycle.
COMMENT     The tetramer association region may exhibit a beta-turn,
              beta-sheet, beta-turn, alpha-helix motif.
CLASSIFICATION   #superfamily cellular tumor antigen p53
KEYWORDS         apoptosis; cell division control; DNA binding; homotetramer;
                   phosphoprotein; transcription regulation; tumor suppressor;
                   zinc
FEATURE
   1-44                #domain transcription activation #status predicted
                         #label TRA\
   16-26               #region conserved region I\
   99-289              #domain DNA-binding core #status predicted #label DBC\
   108-121             #region L1 loop\
   114-139             #region conserved region II\
   160-192             #region L2 loop\
   168-178             #region conserved region III\
   231-252             #region conserved region IV\
   233-248             #region L3 loop\
```

```
   267-283           #region conserved region V\
   313-319           #region nuclear location signal\
   319-357           #region tetramer association\
   7,9,12,18,23,37   #binding_site phosphate (Ser) (covalent) #status
                       predicted\
   173,176,235,239   #binding_site zinc (Cys, His, Cys, Cys) #status
                       predicted\
   312               #binding_site phosphate (Ser) (covalent) (by cdc2
                       kinase) #status predicted\
   389               #binding_site phosphoryl-RNA (Ser) (covalent) #status
                       predicted
SUMMARY          #length 390  #molecular-weight 43458  #checksum 1260

  Query Match           85.1%;  Score 63;  DB 1;  Length 390;
  Best Local Similarity  80.0%;  Pred. No. 1.29e+00;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db     81 APAPATPWPL 90
          ||||| :|||
Qy      1 APAPAPSWPL 10


RESULT    7
ENTRY            JE0329     #type complete
TITLE            low density lipoprotein receptor - Human
ORGANISM         #formal_name Homo sapiens #common_name man
DATE             07-Dec-1998 #sequence_revision 07-Dec-1998 #text_change
                   07-Dec-1998
ACCESSIONS       JE0329
REFERENCE        JE0329
   #authors      Dong, Y.; Lathrop, W.; Weaver, D.; Qiu, Q.; Cini, J.;
                   Bertolini, D.; Chen, D.
   #journal      Biochem. Biophys. Res. Commun. (1998) 251:784-790
   #title        Molecular cloning and characterization of LR3, a novel LDL
                   receptor family protein with mitogenic activity.
   #accession    JE0329
      ##status        preliminary
      ##residues      1-1615 ##label DON
      ##cross-references GB:AF077820
SUMMARY          #length 1615  #molecular-weight 179143  #checksum 293

  Query Match           78.4%;  Score 58;  DB 3;  Length 1615;
  Best Local Similarity  60.0%;  Pred. No. 7.17e+00;
  Matches     6;  Conservative    4;  Mismatches   0;  Indels   0;  Gaps   0;

Db      3 AAPPGPPWPL 12
          |::|:|:|||
Qy      1 APAPAPSWPL 10


RESULT    8
ENTRY            JE0372     #type complete
TITLE            low density lipoprotein receptor related protein - Human
ORGANISM         #formal_name Homo sapiens #common_name man
DATE             04-Feb-1999 #sequence_revision 04-Feb-1999 #text_change
                   04-Feb-1999
ACCESSIONS       JE0372
REFERENCE        JE0372
   #authors      Kim, D.; Inagaki, Y.; Suzuki, T.; Ioka, R.X.; Yoshioka, S.Z.;
                   Magoori, K.; Kang, M.; Cho, Y.; Nakano, A.Z.; Liu, Q.;
                   Fujino, T.; Suzuki, H.; Sasano, H.; Yamamoto, T.T.
   #journal      J. Biochem. (1998) 124:1072-1076
   #title        A new low density lipoprotein receptor related protein, LRP5,
                   is expressed in hepatocytes and adrenal cortex, and
                   recognizes apolipoprotein E.
   #accession    JE0372
      ##status        preliminary
      ##residues      1-1615 ##label KIM
      ##cross-references DDBJ:AB017498
SUMMARY          #length 1615  #molecular-weight 179171  #checksum 692

  Query Match           78.4%;  Score 58;  DB 3;  Length 1615;
  Best Local Similarity  60.0%;  Pred. No. 7.17e+00;
  Matches     6;  Conservative    4;  Mismatches   0;  Indels   0;  Gaps   0;

Db      3 AAPPGPPWPL 12
          |::|:|:|||
Qy      1 APAPAPSWPL 10


RESULT    9
ENTRY            S02192     #type complete
TITLE            cellular tumor antigen p53 - rat
ALTERNATE_NAMES  gene p53 protein; nuclear oncoprotein p53
ORGANISM         #formal_name Rattus norvegicus #common_name Norway rat
DATE             18-Oct-1989 #sequence_revision 18-Oct-1989 #text_change
                   17-Mar-1999
ACCESSIONS       S02192; S41149
REFERENCE        S02192
   #authors      Soussi, T.; de Fromentel, C.C.; Breugnot, C.; May, E.
   #journal      Nucleic Acids Res. (1988) 16:11384
   #title        Nucleotide sequence of a cDNA encoding the rat p53 nuclear
                   oncoprotein.
   #cross-references MUID:89083585
   #accession    S02192
      ##molecule_type mRNA
      ##residues      1-391 ##label SOU
      ##cross-references EMBL:X13058; NID:g56828; PID:g56829
REFERENCE        S41149
   #authors      Hulla, J.E.; Schneider, R.P.
   #journal      Nucleic Acids Res. (1993) 21:713-717
   #title        Structure of the rat p53 tumor suppressor gene.
   #cross-references MUID:93181268
   #accession    S41149
      ##status        preliminary; nucleic acid sequence not shown;
                       translation not shown
      ##molecule_type DNA
      ##residues      1-173,'W',175-391 ##label HUL
      ##cross-references EMBL:L07909
      ##note          the nucleotide sequence was submitted to the EMBL Data
                       Library, December 1992
GENETICS
   #introns      25/2; 32/3; 123/3; 185/1; 259/2; 305/1; 329/3; 365/2
CLASSIFICATION   #superfamily cellular tumor antigen p53
KEYWORDS         apoptosis; cell division control; DNA binding; homotetramer;
                   nucleus; phosphoprotein; transcription regulation; tumor
                   suppressor; zinc
FEATURE
   174,177,236,240   #binding_site zinc (Cys, His, Cys, Cys) #status
                       predicted\
   390               #binding_site phosphoryl-RNA (Ser) (covalent) #status
                       predicted
SUMMARY          #length 391  #molecular-weight 43451  #checksum 7105

  Query Match           75.7%;  Score 56;  DB 2;  Length 391;
  Best Local Similarity  70.0%;  Pred. No. 1.40e+01;
  Matches     7;  Conservative    2;  Mismatches   1;  Indels   0;  Gaps   0;

Db     82 APASATPWPL 91
          |||:| :|||
Qy      1 APAPAPSWPL 10


RESULT   10
ENTRY            JC6176     #type complete
TITLE            tumor suppressor protein p53 - Chinese hamster
ORGANISM         #formal_name Cricetulus griseus #common_name Chinese hamster
DATE             11-Apr-1997 #sequence_revision 09-May-1997 #text_change
                   08-Sep-1997
ACCESSIONS       JC6176
REFERENCE        JC6176
   #authors      Lee, H.; Larner, J.M.; Hamlin, J.L.
   #journal      Gene (1997) 184:177-183
   #title        Cloning and characterization of Chinese hamster p53 cDNA.
   #cross-references MUID:97183659
   #contents     liver
```

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   #accession    JC6176
      ##molecule_type mRNA
      ##residues      1-393 ##label LEE
      ##cross-references GB:U50395; NID:g1842229; PID:g1842230
COMMENT     This protein is a multimer, it plays the central role in a complex
            DNA damage-sensing network. It binds to replication factor and
            TATA-binding protein, and affects DNA replication, transcription,
            and recombination by protein/protein interactions.
GENETICS
   #gene          p53
CLASSIFICATION   #superfamily cellular tumor antigen p53
KEYWORDS         liver; tumor
SUMMARY          #length 393  #molecular-weight 43362  #checksum 4043

  Query Match           75.7%;  Score 56;  DB 2;  Length 393;
  Best Local Similarity  70.0%;  Pred. No. 1.40e+01;
  Matches     7;  Conservative    2;  Mismatches   1;  Indels   0;  Gaps   0;

Db      84 ASAPATPWPL 93
           |:||| :|||
Qy       1 APAPAPSWPL 10


RESULT   11
ENTRY            JH0633     #type complete
TITLE            cellular tumor antigen p53 - golden hamster
ALTERNATE_NAMES  tumor-suppressor protein p53
ORGANISM         #formal_name Mesocricetus auratus #common_name golden hamster
DATE             17-Aug-1992 #sequence_revision 17-Aug-1992 #text_change
                   08-Sep-1997
ACCESSIONS       JH0633
REFERENCE        JH0633
   #authors      Legros, Y.; McIntyre, P.; Soussi, T.
   #journal      Gene (1992) 112:247-250
   #title        The cDNA cloning and immunological characterization of
                   hamster p53.
   #cross-references MUID:92210007
   #accession    JH0633
      ##molecule_type mRNA
      ##residues      1-396 ##label LEG
      ##cross-references GB:M75144; NID:g191414; PID:g191415
      ##experimental_source kidney, strain MP1
GENETICS
   #gene          p53
CLASSIFICATION   #superfamily cellular tumor antigen p53
KEYWORDS         apoptosis; cell division control; DNA binding; homotetramer;
                   nucleus; phosphoprotein; transcription regulation; tumor
                   suppressor; zinc
FEATURE
   179,182,241,245    #binding_site zinc (Cys, His, Cys, Cys) #status
                        predicted\
   395                #binding_site phosphoryl-RNA (Ser) (covalent) #status
                        predicted
SUMMARY          #length 396  #molecular-weight 43631  #checksum 6617

  Query Match           75.7%;  Score 56;  DB 2;  Length 396;
  Best Local Similarity  70.0%;  Pred. No. 1.40e+01;
  Matches     7;  Conservative    2;  Mismatches   1;  Indels   0;  Gaps   0;

Db      87 ASAPATPWPL 96
           |:||| :|||
Qy       1 APAPAPSWPL 10


RESULT   12
ENTRY            B43776     #type complete
TITLE            drebrin E1 - chicken
ORGANISM         #formal_name Gallus gallus #common_name chicken
DATE             01-Dec-1992 #sequence_revision 30-Jan-1993 #text_change
                   30-Sep-1993
ACCESSIONS       B43776
REFERENCE        A43776
   #authors      Kojima, N.; Kato, Y.; Shirao, T.; Obata, K.
   #journal      Brain Res. Mol. Brain Res. (1988) 4:207-215
   #title        Nucleotide sequences of two embryonic drebrins,
                   developmentally regulated brain proteins, and developmental
                   change in their mRNAs.
   #accession    B43776
      ##status        preliminary
      ##molecule_type mRNA
      ##residues      1-564 ##label KOJ
SUMMARY          #length 564  #molecular-weight 62296  #checksum 8914

  Query Match           75.7%;  Score 56;  DB 2;  Length 564;
  Best Local Similarity  60.0%;  Pred. No. 1.40e+01;
  Matches     6;  Conservative    4;  Mismatches   0;  Indels   0;  Gaps   0;

Db     408 APAATSTWPL 417
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Qy       1 APAPAPSWPL 10


RESULT   13
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TITLE            drebrin - chicken (fragment)
ORGANISM         #formal_name Gallus gallus #common_name chicken
DATE             04-Sep-1997 #sequence_revision 04-Sep-1997 #text_change
                   07-Nov-1997
ACCESSIONS       I51213
REFERENCE        I51212
   #authors      Kojima, N.; Shirao, T.; Obata, K.
   #journal      Brain Res. Mol. Brain Res. (1993) 19:101-114
   #title        Molecular cloning of a developmentally regulated brain
                   protein, chicken drebrin A and its expression by
                   alternative splicing of the drebrin gene.
   #cross-references MUID:93368392
   #accession    I51213
      ##status        preliminary; translated from GB/EMBL/DDBJ
      ##molecule_type DNA
      ##residues      1-593 ##label KOJ
      ##cross-references GB:S65296; NID:g410604; PID:g410605
GENETICS
   #introns       26/3; 51/3; 100/3; 126/3; 177/2; 198/3; 218/3; 257/1; 303/1;
                   346/1; 536/3; 571/1
SUMMARY          #length 593  #checksum 1479

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  Best Local Similarity  60.0%;  Pred. No. 1.40e+01;
  Matches     6;  Conservative    4;  Mismatches   0;  Indels   0;  Gaps   0;

Db     438 APAATSTWPL 447
           |||::::|||
Qy       1 APAPAPSWPL 10


RESULT   14
ENTRY            A43776     #type complete
TITLE            drebrin E2 - chicken
ORGANISM         #formal_name Gallus gallus #common_name chicken
DATE             01-Dec-1992 #sequence_revision 30-Jan-1993 #text_change
                   06-Dec-1996
ACCESSIONS       A43776; I50221
REFERENCE        A43776
   #authors      Kojima, N.; Kato, Y.; Shirao, T.; Obata, K.
   #journal      Brain Res. Mol. Brain Res. (1988) 4:207-215
   #title        Nucleotide sequences of two embryonic drebrins,
                   developmentally regulated brain proteins, and developmental
                   change in their mRNAs.
   #accession    A43776
      ##molecule_type mRNA
      ##residues      1-607 ##label KOJ
      ##cross-references GB:M36961; NID:g211725; PID:g211726
SUMMARY          #length 607  #molecular-weight 66685  #checksum 2901

  Query Match           75.7%;  Score 56;  DB 2;  Length 607;
  Best Local Similarity  60.0%;  Pred. No. 1.40e+01;
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  Matches     6;  Conservative    4;  Mismatches   0;  Indels   0;  Gaps   0;

Db    451 APAATSTWPL 460
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Qy      1 APAPAPSWPL 10


RESULT   15
ENTRY             T00456     #type complete
TITLE             probable protein kinase - Arabidopsis thaliana
ALTERNATE_NAMES   protein T14N5.13
ORGANISM          #formal_name Arabidopsis thaliana #common_name mouse-ear
                    cress
DATE              01-Feb-1999 #sequence_revision 01-Feb-1999 #text_change
                    01-Feb-1999
ACCESSIONS        T00456
REFERENCE         Z14152
   #authors       Federspiel, N.A.; Palm, C.J.; Conway, A.B.; Kurtz, D.B.;
                    Conway, A.R.; Au, M.; Araujo, R.; Buehler, E.; Dewar, K.;
                    Feng, J.; Kim, C.; Li, Y.; Oji, O.; Osborne, B.I.; Shinn,
                    P.; Sun, H.; Toriumi, M.; Vysotskaia, V.S.; Yu, G.; Ecker,
                    J.; Theologis, A.; Davis, R.W.
   #submission    submitted to the EMBL Data Library, September 1998
   #accession     T00456
      ##status        preliminary; translated from GB/EMBL/DDBJ
      ##molecule_type DNA
      ##residues      1-781 ##label FED
      ##cross-references EMBL:AC004260; NID:g3176694; PID:g3540207
GENETICS
   #map_position I
   #introns       26/1; 87/1; 119/3; 204/1; 382/3; 406/1; 489/1; 543/3; 570/2;
                    700/3
   #note          T14N5.13
SUMMARY           #length 781  #molecular-weight 86052  #checksum 8213

  Query Match           75.7%;  Score 56;  DB 2;  Length 781;
  Best Local Similarity  66.7%;  Pred. No. 1.40e+01;
  Matches     6;  Conservative    1;  Mismatches   2;  Indels   0;  Gaps   0;

Db    325 PEPRPGWPL 333
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Qy      2 PAPAPSWPL 10


Search completed: Sat Apr 15 00:21:33 2000
Job time : 18 secs.
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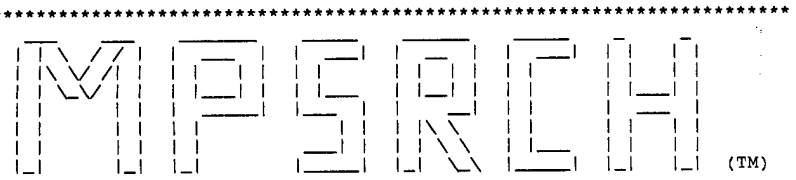

MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Sat Apr 15 00:21:50 2000; MasPar time 3.08 Seconds
96.876 Million cell updates/sec

Tabular output not generated.

Title: >US-08-452-843-14
Description: (1-10) from US08452843.pep
Perfect Score: 74
Sequence: 1 APAPAPSWPL 10

Scoring table: PAM 150
Gap 15

Searched: 82229 seqs, 29864866 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: swiss-prot38
1:swissprot

Statistics: Mean 23.689; Variance 40.820; scale 0.580

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description	Pred. No.
1	74	100.0	393	1	P53_HUMAN	CELLULAR TUMOR ANTIGEN	5.22e-03
2	74	100.0	393	1	P53_MACFA	CELLULAR TUMOR ANTIGEN	5.22e-03
3	74	100.0	393	1	P53_MACMU	CELLULAR TUMOR ANTIGEN	5.22e-03
4	74	100.0	393	1	P53_CERAE	CELLULAR TUMOR ANTIGEN	5.22e-03
5	71	95.9	381	1	P53_CANFA	CELLULAR TUMOR ANTIGEN	1.78e-02
6	66	89.2	280	1	P53_HORSE	CELLULAR TUMOR ANTIGEN	1.32e-01
7	66	89.2	391	1	P53_RABIT	CELLULAR TUMOR ANTIGEN	1.32e-01
8	64	86.5	386	1	P53_BOVIN	CELLULAR TUMOR ANTIGEN	2.89e-01
9	63	85.1	390	1	P53_MOUSE	CELLULAR TUMOR ANTIGEN	4.26e-01
10	60	81.1	314	1	P53_SPEBE	CELLULAR TUMOR ANTIGEN	1.34e+00
11	60	81.1	386	1	P53_FELCA	CELLULAR TUMOR ANTIGEN	1.34e+00
12	58	78.4	895	1	GNDS_RAT	GUANINE NUCLEOTIDE DIS	2.82e+00
13	56	75.7	391	1	P53_RAT	CELLULAR TUMOR ANTIGEN	5.86e+00
14	56	75.7	393	1	P53_CRIGR	CELLULAR TUMOR ANTIGEN	5.86e+00
15	56	75.7	396	1	P53_MESAU	CELLULAR TUMOR ANTIGEN	5.86e+00
16	56	75.7	652	1	DREB_CHICK	DREBRINS A, E1 AND E2.	5.86e+00
17	56	75.7	2554	1	7LES_DROME	SEVENLESS PROTEIN (EC	5.86e+00
18	54	73.0	212	1	ET1_HUMAN	ENDOTHELIN-1 PRECURSOR	1.20e+01
19	54	73.0	224	1	TIM4_HUMAN	METALLOPROTEINASE INHI	1.20e+01
20	54	73.0	268	1	CDX1_MOUSE	HOMEOBOX PROTEIN CDX-1	1.20e+01
21	54	73.0	382	1	P53_SHEEP	CELLULAR TUMOR ANTIGEN	1.20e+01
22	54	73.0	440	1	NK4R_HUMAN	NEUROMEDIN K RECEPTOR	1.20e+01
23	53	71.6	311	1	CDX2_HUMAN	HOMEOBOX PROTEIN CDX-2	1.71e+01
24	53	71.6	311	1	CDX2_MOUSE	HOMEOBOX PROTEIN CDX-2	1.71e+01
25	53	71.6	670	1	DSH_HUMAN	SEGMENT POLARITY PROTE	1.71e+01
26	51	68.9	257	1	Y036_MYCTU	HYPOTHETICAL 27.6 KD P	3.42e+01
27	51	68.9	291	1	SPDB_STRLI	SPDB PROTEIN.	3.42e+01
28	51	68.9	387	1	A2AB_MACPR	ALPHA-2B ADRENERGIC RE	3.42e+01
29	51	68.9	472	1	VL2_HPV26	MINOR CAPSID PROTEIN L	3.42e+01
30	51	68.9	550	1	VGLE_HSV11	GLYCOPROTEIN E PRECURS	3.42e+01
31	51	68.9	864	1	KLTK_HUMAN	LEUKOCYTE TYROSINE KIN	3.42e+01
32	51	68.9	2411	1	DAB_DROME	DISABLED PROTEIN.	3.42e+01
33	50	67.6	283	1	YS95_MYCTU	HYPOTHETICAL 30.6 KD P	4.81e+01
34	50	67.6	332	1	GLYG_RAT	GLYCOGENIN-1 (EC 2.4.1	4.81e+01
35	50	67.6	332	1	GLYG_RABIT	GLYCOGENIN-1 (EC 2.4.1	4.81e+01
36	50	67.6	332	1	GLYG_HUMAN	GLYCOGENIN-1 (EC 2.4.1	4.81e+01
37	50	67.6	415	1	TRA1_MYCTU	TRANSPOSASE FOR INSERT	4.81e+01
38	50	67.6	501	1	GYG2_HUMAN	GLYCOGENIN-2 (GN2).	4.81e+01
39	50	67.6	831	1	SYFB_MYCTU	PHENYLALANYL-TRNA SYNT	4.81e+01
40	50	67.6	1839	1	POLR_EPMV	RNA REPLICASE POLYPROT	4.81e+01
41	49	66.2	65	1	OMP_LOCMI	OVARY MATURATING PARSI	6.74e+01
42	49	66.2	240	1	MTRA_METMA	TETRAHYDROMETHANOPTERI	6.74e+01
43	49	66.2	245	1	MTRA_METJA	TETRAHYDROMETHANOPTERI	6.74e+01
44	49	66.2	852	1	GNDS_MOUSE	GUANINE NUCLEOTIDE DIS	6.74e+01
45	49	66.2	1247	1	IRBP_HUMAN	INTERPHOTORECEPTOR RET	6.74e+01

ALIGNMENTS

```
RESULT    1
ID   P53_HUMAN      STANDARD;      PRT;   393 AA.
AC   P04637;
DT   13-AUG-1987 (Rel. 05, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53 (PHOSPHOPROTEIN P53).
GN   TP53.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Primates; Catarrhini; Hominidae; Homo.
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 85230577.
RA   ZAKUT-HOURI R., BIENZ-TADMOR B., GIVOL D., OREN M.;
RT   "Human p53 cellular tumor antigen: cDNA sequence and expression in
RT   COS cells.";
RL   EMBO J. 4:1251-1255(1985).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 87064416.
RA   LAMB P., CRAWFORD L.;
RT   "Characterization of the human p53 gene.";
RL   Mol. Cell. Biol. 6:1379-1385(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 85267676.
RA   HARLOW E., WILLIAMSON N.M., RALSTON R., HELFMAN D.M., ADAMS T.E.;
RT   "Molecular cloning and in vitro expression of a cDNA clone for human
RT   cellular tumor antigen p53.";
RL   Mol. Cell. Biol. 5:1601-1610(1985).
RN   [4]
RP   TRANSFORMED HYBRIDOMA SV-80 CELL LINE, SEQUENCE FROM N.A.
RX   MEDLINE; 87089826.
RA   HARRIS N., BRILL E., SHOHAT O., PROKOCIMER M., WOLF D., ARAI N.,
RA   ROTTER V.;
RT   "Molecular basis for heterogeneity of the human p53 protein.";
RL   Mol. Cell. Biol. 6:4650-4656(1986).
RN   [5]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 89108008.
RA   BUCHMAN V.L., CHUMAKOV P.M., NINKINA N.N., SAMARINA O.P.,
RA   GEORGIEV G.P.;
RT   "A variation in the structure of the protein-coding region of the
RT   human p53 gene.";
RL   Gene 70:245-252(1988).
RN   [6]
```

RP SEQUENCE OF 101-393 FROM N.A.
RX MEDLINE; 85126934.
RA MATLASHEWSKI G., LAMB P., PIM D., PEACOCK J., CRAWFORD L.,
RA BENCHIMOL S.;
RT "Isolation and characterization of a human p53 cDNA clone: expression
RT of the human p53 gene.";
RL EMBO J. 3:3257-3262(1984).
RN [7]
RP NUCLEAR LOCALIZATION SIGNAL.
RX MEDLINE; 90191730.
RA ADDISON C., JENKINS J.R., STURZBECHER H.-W.;
RT "The p53 nuclear localisation signal is structurally linked to a
RT p34cdc2 kinase motif.";
RL Oncogene 5:423-426(1990).
RN [8]
RP PHOSPHORYLATION BY P60/CDC2 AND CYCLIN B/CDC2.
RX MEDLINE; 90280456.
RA BISCHOFF J.R., FRIEDMAN P.N., MARSHAK D.R., PRIVES C., BEACH D.;
RT "Human p53 is phosphorylated by p60-cdc2 and cyclin B-cdc2.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:4766-4770(1990).
RN [9]
RP DEPHOSPHORYLATION BY PP2A.
RX MEDLINE; 91172186.
RA SCHEIDTMANN K.H., MUMBY M.C., RUNDELL K., WALTER G.;
RT "Dephosphorylation of simian virus 40 large-T antigen and p53 protein
RT by protein phosphatase 2A: inhibition by small-t antigen.";
RL Mol. Cell. Biol. 11:1996-2003(1991).
RN [10]
RP STRUCTURE BY NMR OF 319-360.
RX MEDLINE; 94294808.
RA CLORE G.M., OMICHINSKI J.G., SAKAGUCHI K., ZAMBRANO N., SAKAMOTO H.,
RA APPELLA E., GRONENBORN A.M.;
RT "High-resolution structure of the oligomerization domain of p53 by
RT multidimensional NMR.";
RL Science 265:386-391(1994).
RN [11]
RP STRUCTURE BY NMR OF 325-355.
RX MEDLINE; 95292092.
RA LEE W., HARVEY T.S., YIN Y., YAU P., LITCHFIELD D., ARROWSMITH C.H.;
RT "Solution structure of the tetrameric minimum transforming domain of
RT p53.";
RL Nat. Struct. Biol. 1:877-890(1994).
RN [12]
RP STRUCTURE BY NMR OF 326-354.
RX MEDLINE; 98026899.
RA MCCOY M., STAVRIDI E.S., WATERMAN J.L., WIECZOREK A.M., OPELLA S.J.,
RA HALAZONETIS T.D.;
RT "Hydrophobic side-chain size is a determinant of the
RT three-dimensional structure of the p53 oligomerization domain.";
RL EMBO J. 16:6230-6236(1997).
RN [13]
RP X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS) OF 94-289.
RX MEDLINE; 94294806.
RA CHO Y., GORINA S., JEFFREY P.D., PAVLETICH N.P.;
RT "Crystal structure of a p53 tumor suppressor-DNA complex:
RT understanding tumorigenic mutations.";
RL Science 265:346-355(1994).
RN [14]
RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS) OF 13-29 IN COMPLEX WITH MDM2.
RX MEDLINE; 97081050.
RA KUSSIE P.H., GORINA S., MARECHAL V., ELENBAAS B., MOREAU J.,
RA LEVINE A.J., PAVLETICH N.P.;
RT "Structure of the MDM2 oncoprotein bound to the p53 tumor suppressor
RT transactivation domain.";
RL Science 274:948-953(1996).
RN [15]
RP X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS) OF 97-287 IN COMPLEX WITH 53BP2.
RX MEDLINE; 97035414.
RA GORINA S., PAVLETICH N.P.;
RT "Structure of the p53 tumor suppressor bound to the ankyrin and SH3
RT domains of 53BP2.";
RL Science 274:1001-1005(1996).
RN [16]
RP REVIEW.
RX MEDLINE; 94090335.
RA HARRIS C.C.;
RT "p53: at the crossroads of molecular carcinogenesis and risk
RT assessment.";
RL Science 262:1980-1981(1993).
RN [17]
RP REVIEW ON VARIANTS.
RX MEDLINE; 91289156.
RA HOOLSTEIN M., SIDRANSKY D., VOGELSTEIN B., HARRIS C.C.;
RT "p53 mutations in human cancers.";
RL Science 253:49-53(1991).
RN [18]
RP REVIEW ON VARIANTS.
RX MEDLINE; 96271983.
RA DE VRIES E.M.G., RICKE D.O., DE VRIES T.N., HARTMANN A., BLASZYK H.,
RA LIAO D., SOUSSI T., KOVACH J.S., SOMMER S.S.;
RT "Database of mutations in the p53 and APC tumor suppressor genes
RT designed to facilitate molecular epidemiological analyses.";
RL Hum. Mutat. 7:202-213(1996).
RN [19]
RP VARIANT ARG-72.
RX MEDLINE; 91153807.
RA OLSCHWANG S., LAURENT-PUIG P., VASSAL A., SALMON R.-J., THOMAS G.;
RT "Characterization of a frequent polymorphism in the coding sequence
RT of the Tp53 gene in colonic cancer patients and a control
RT population.";
RL Hum. Genet. 86:369-370(1991).
RN [20]
RP VARIANT LFS THR-133.
RX MEDLINE; 92034774.
RA LAW J.C., STRONG L.C., CHIDAMBARAM A., FERRELL R.E.;
RT "A germ line mutation in exon 5 of the p53 gene in an extended cancer
RT family.";
RL Cancer Res. 51:6385-6387(1991).
RN [21]
RP VARIANTS LFS CYS-245; TRP-248; PRO-252 AND LYS-258.
RX MEDLINE; 91057657.
RA MALKIN D., LI F.P., STRONG L.C., FRAUMENI J.F. JR., NELSON C.E.,
RA KIM D.H., KASSEL J., GRYKA M.A., BISCHOFF F.Z., TAINSKY M.A.,
RA FRIEND S.H.;
RT "Germ line p53 mutations in a familial syndrome of breast cancer,
RT sarcomas, and other neoplasms.";
RL Science 250:1233-1238(1990).
RN [22]
RP VARIANT LFS ASP-245.
RX MEDLINE; 91080929.
RA SRIVASTAVA S., ZOU Z., PIROLLO K., BLATTNER W., CHANG E.H.;
RT "Germ-line transmission of a mutated p53 gene in a cancer-prone
RT family with Li-Fraumeni syndrome.";
RL Nature 348:747-749(1990).
RN [23]
RP VARIANT LFS LEU-272.
RX MEDLINE; 92147883.
RA FELIX C.A., NAU M.M., TAKAHASHI T., MITSUDOMI T., CHIBA I.,
RA POPLACK D.G., REAMAN G.H., COLE D.E., LETTERIO J.J., WHANG-PENG J.,
RA KNUTSEN T., MINNA J.D.;
RT "Hereditary and acquired p53 gene mutations in childhood acute
RT lymphoblastic leukemia.";
RL J. Clin. Invest. 89:640-647(1992).
RN [24]
RP VARIANTS LFS HIS-273 AND VAL-325.
RX MEDLINE; 92228023.
RA MALKIN D., JOLLY K.W., BARBIER N., LOOK A.T., FRIEND S.H.,
RA GEBHARDT M.C., ANDERSEN T.I., BORRESEN A.-L., LI F.P., GARBER J.,
RA STRONG L.C.;
RT "Germline mutations of the p53 tumor-suppressor gene in children and
RT young adults with second malignant neoplasms.";
RL New Engl. J. Med. 326:1309-1315(1992).
RN [25]
RP VARIANTS BREAST TUMORS GLN-132; SER-249; LYS-280 AND LYS-285.
RX MEDLINE; 90295284.
RA BARTEK J., IGGO R., GANNON J., LANE D.P.;

```
RT   "Genetic and immunochemical analysis of mutant p53 in human breast
RT   cancer cell lines.";
RL   Oncogene 5:893-899(1990).
RN   [26]
RP   VARIANTS COLON TUMORS PHE-241 AND HIS-273.
RX   MEDLINE; 91017544.
RA   RODRIGUES N.R., ROWAN A., SMITH M.E.F., KERR I.B., BODMER W.F.,
RA   GANNON J.V., LANE D.P.;
...
Note: remainder of annotations omitted.

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 5.22e-03;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db     84 APAPAPSWPL 93
          ||||||||||
Qy      1 APAPAPSWPL 10


RESULT    2
ID   P53_MACFA      STANDARD;      PRT;   393 AA.
AC   P56423;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53 OR P53.
OS   Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae;
OC   Macaca.
RN   [1]
RP   SEQUENCE FROM N.A.
RA   KHAN M.A., HANSEN C., WELSH J.A., BENNETT W.P.;
RL   Submitted (FEB-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U48957; AAB91535.1; -.
DR   HSSP; P04637; 1SAH.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     80       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN       81    150       HYDROPHOBIC.
FT   DOMAIN      319    393       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                INTERACTION WITH DNA.
FT   DOMAIN      311    323       NUCLEAR LOCALIZATION SIGNAL.
FT   MOD_RES     392    392       PHOSPHORYLATION (BY SIMILARITY).
SQ   SEQUENCE   393 AA;  43678 MW;  2499AC47 CRC32;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 5.22e-03;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db     84 APAPAPSWPL 93
          ||||||||||
Qy      1 APAPAPSWPL 10


RESULT    3
ID   P53_MACMU      STANDARD;      PRT;   393 AA.
AC   P56424;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53 OR P53.
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae;
OC   Macaca.
RN   [1]
RP   SEQUENCE FROM N.A.
RA   KHAN M.A., HANSEN C., WELSH J.A., BENNETT W.P.;
RL   Submitted (FEB-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U48956; AAB91534.1; -.
DR   HSSP; P04637; 1SAH.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     80       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN       81    150       HYDROPHOBIC.
FT   DOMAIN      319    393       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                INTERACTION WITH DNA.
FT   DOMAIN      311    323       NUCLEAR LOCALIZATION SIGNAL.
FT   MOD_RES     392    392       PHOSPHORYLATION (BY SIMILARITY).
SQ   SEQUENCE   393 AA;  43655 MW;  11A9B7F8 CRC32;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 5.22e-03;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db     84 APAPAPSWPL 93
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Qy      1 APAPAPSWPL 10
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RESULT    4
ID    P53_CERAE      STANDARD;      PRT;   393 AA.
AC    P13481;
DT    01-JAN-1990 (Rel. 13, Created)
DT    01-JAN-1990 (Rel. 13, Last sequence update)
DT    01-NOV-1997 (Rel. 35, Last annotation update)
DE    CELLULAR TUMOR ANTIGEN P53.
GN    TP53.
OS    Cercopithecus aethiops (Green monkey) (Grivet).
OC    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC    Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae;
OC    Chlorocebus.
RN    [1]
RP    SEQUENCE FROM N.A.
RC    TISSUE=LIVER;
RX    MEDLINE; 90045967.
RA    RIGAUDY P., ECKHARDT W.;
RT    "Nucleotide sequence of a cDNA encoding the monkey cellular
RT    phosphoprotein p53.";
RL    Nucleic Acids Res. 17:8375-8375(1989).
CC    -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC        GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC        CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC        TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC        TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC        BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC        THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC        APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC        BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC        EXPRESSION.
CC    -!- SUBCELLULAR LOCATION: NUCLEAR.
CC    -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC        OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC        IN MANY TYPES OF CANCER.
CC    -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
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CC    ---------------------------------------------------------------------
DR    EMBL; X16384; CAA34420.1; -.
DR    PIR; S06594; S06594.
DR    HSSP; P04637; 1SAH.
DR    PROSITE; PS00348; P53; 1.
DR    PFAM; PF00870; P53; 1.
KW    Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW    Nuclear protein; Phosphorylation; Apoptosis.
FT    DOMAIN        1     68       ASP/GLU-RICH (ACIDIC).
FT    DOMAIN       81    150       HYDROPHOBIC.
FT    DOMAIN      319    393       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                 INTERACTION WITH DNA.
FT    DOMAIN      311    323       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT    MOD_RES     392    392       PHOSPHORYLATION (BY SIMILARITY).
SQ    SEQUENCE   393 AA;  43696 MW;  BBE7DC62 CRC32;

  Query Match          100.0%;  Score 74;  DB 1;  Length 393;
  Best Local Similarity 100.0%;  Pred. No. 5.22e-03;
  Matches    10;  Conservative    0;  Mismatches   0;  Indels   0;  Gaps   0;

Db     84 APAPAPSWPL 93
          ||||||||||
Qy      1 APAPAPSWPL 10


RESULT    5
ID    P53_CANFA      STANDARD;      PRT;   381 AA.
AC    Q29537;
DT    01-NOV-1997 (Rel. 35, Created)
DT    15-DEC-1998 (Rel. 37, Last sequence update)
DT    15-DEC-1998 (Rel. 37, Last annotation update)
DE    CELLULAR TUMOR ANTIGEN P53.
GN    TP53 OR P53.
OS    Canis familiaris (Dog).
OC    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC    Eutheria; Carnivora; Fissipedia; Canidae; Canis.
RN    [1]
RP    SEQUENCE FROM N.A.
RC    TISSUE=LEUKOCYTE;
RX    MEDLINE; 98178696.
RA    VELDHOEN N., MILNER J.;
RT    "Isolation of canine p53 cDNA and detailed characterization of the
RT    full length canine p53 protein.";
RL    Oncogene 16:1077-1084(1998).
RN    [2]
RP    SEQUENCE OF 25-300 FROM N.A.
RC    STRAIN=BEAGLE;
RX    MEDLINE; 95323915.
RA    KRAEGEL S.A., PAZZI K.A., MADEWELL B.R.;
RT    "Sequence analysis of canine p53 in the region of exons 3-8.";
RL    Cancer Lett. 92:181-186(1995).
CC    -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC        GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC        CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC        TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC        TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC        BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC        THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC        APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC        BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC        EXPRESSION.
CC    -!- SUBCELLULAR LOCATION: NUCLEAR.
CC    -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC        OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC        IN MANY TYPES OF CANCER.
CC    -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC    ---------------------------------------------------------------------
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CC    or send an email to license@isb-sib.ch).
CC    ---------------------------------------------------------------------
DR    EMBL; AF060514; AAC16909.1; -.
DR    EMBL; S77819; AAB42022.1; -.
DR    HSSP; P04637; 1YCS.
DR    PROSITE; PS00348; P53; 1.
DR    PFAM; PF00870; P53; 1.
KW    Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW    Nuclear protein; Phosphorylation; Apoptosis.
FT    DOMAIN        1     59       ASP/GLU-RICH (ACIDIC).
FT    DOMAIN       68    137       HYDROPHOBIC.
FT    DOMAIN      307    381       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                 INTERACTION WITH DNA (BY SIMILARITY).
FT    DOMAIN      299    311       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT    MOD_RES     380    380       PHOSPHORYLATION (BY SIMILARITY).
SQ    SEQUENCE   381 AA;  42486 MW;  70210B63 CRC32;

  Query Match          95.9%;  Score 71;  DB 1;  Length 381;
  Best Local Similarity 90.0%;  Pred. No. 1.78e-02;
  Matches     9;  Conservative    1;  Mismatches   0;  Indels   0;  Gaps   0;

Db     71 APGPAPSWPL 80
          ||:|||||||
Qy      1 APAPAPSWPL 10


RESULT    6
ID    P53_HORSE      STANDARD;      PRT;   280 AA.
AC    P79892; Q29481;
DT    01-NOV-1997 (Rel. 35, Created)
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DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53 (FRAGMENT).
GN   TP53 OR P53.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Perissodactyla; Equidae; Equus.
RN   [1]
RP   SEQUENCE OF 1-263 FROM N.A.
RC   TISSUE=SPLEEN;
RX   MEDLINE; 97070350.
RA   PAZZI K.A., KRAEGEL S.A., GRIFFEY S.M., THEON A.P., MADEWELL B.R.;
RT   "Analysis of the equine tumor suppressor gene p53 in the normal horse
RT   and in eight cutaneous squamous cell carcinomas.";
RL   Cancer Lett. 107:125-130(1996).
RN   [2]
RP   SEQUENCE OF 76-280 FROM N.A.
RX   MEDLINE; 96293865.
RA   NASIR L., REID S.W.;
RT   "Nucleotide sequence of exons 5 to 9 of the p53 tumour-suppressor
RT   gene of the horse (Equus caballus).";
RL   DNA Seq. 6:185-187(1996).
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; S83123; AAB46899.1; -.
DR   EMBL; U37120; AAB18936.1; -.
DR   HSSP; P04637; 1SAH.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   NON_TER       1      1
FT   DOMAIN      262    274       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   CONFLICT     79     79       T -> A (IN REF. 2).
FT   CONFLICT     83     83       L -> M (IN REF. 2).
FT   CONFLICT    111    111       A -> V (IN REF. 2).
FT   CONFLICT    138    138       G -> A (IN REF. 2).
FT   NON_TER     280    280
SQ   SEQUENCE   280 AA;  30985 MW;  B494F872 CRC32;

  Query Match           89.2%;  Score 66;  DB 1;  Length 280;
  Best Local Similarity  90.0%;  Pred. No. 1.32e-01;
  Matches     9;  Conservative    0;  Mismatches   1;  Indels   0;  Gaps   0;

Db     34 APAPATSWPL 43
          ||||| ||||
Qy      1 APAPAPSWPL 10


RESULT    7
ID   P53_RABIT      STANDARD;      PRT;   391 AA.
AC   Q95330;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53.
OS   Oryctolagus cuniculus (Rabbit).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Lagomorpha; Leporidae; Oryctolagus.
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NEW ZEALAND;
RX   MEDLINE; 97208869.
RA   LE GOAS F., MAY P., RONCO P., CARON DE FROMENTEL C.;
RT   "cDNA cloning and immunological characterization of rabbit p53.";
RL   Gene 185:169-173(1997).
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
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CC   ---------------------------------------------------------------------
DR   EMBL; X90592; CAA62216.1; -.
DR   HSSP; P04637; 1YCR.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     70       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN      308    321       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     390    390       PHOSPHORYLATION (BY SIMILARITY).
SQ   SEQUENCE   391 AA;  43435 MW;  30A36172 CRC32;

  Query Match           89.2%;  Score 66;  DB 1;  Length 391;
  Best Local Similarity  90.0%;  Pred. No. 1.32e-01;
  Matches     9;  Conservative    0;  Mismatches   1;  Indels   0;  Gaps   0;

Db     81 APAPATSWPL 90
          ||||| ||||
Qy      1 APAPAPSWPL 10


RESULT    8
ID   P53_BOVIN      STANDARD;      PRT;   386 AA.
AC   Q29628;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53.
OS   Bos taurus (Bovine), and Bos indicus (Zebu).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae;
OC   Bovinae; Bos.
RN   [1]
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RP   SEQUENCE FROM N.A.
RC   SPECIES=BOVINE; TISSUE=LIVER;
RX   MEDLINE; 95352829.
RA   DEQUIEDT F., KETTMANN R., BURNY A., WILLEMS L.;
RT   "Nucleotide sequence of the bovine P53 tumor-suppressor cDNA.";
RL   DNA Seq. 5:261-264(1995).
RN   [2]
RP   SEQUENCE OF 13-386 FROM N.A.
RC   SPECIES=BOVINE; STRAIN=HOLSTEIN; TISSUE=THYMUS;
RX   MEDLINE; 96401400.
RA   KOMORI H., ISHIGURO N., HORIUCHI M., SHINAGAWA M., AIDA Y.;
RT   "Predominant p53 mutations in enzootic bovine leukemic cell lines.";
RL   Vet. Immunol. Immunopathol. 52:53-63(1996).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   SPECIES=B.INDICUS; STRAIN=BORAN; TISSUE=BLOOD;
RA   BISHOP R.R.P., GOBRIGHT E.E.I.;
RL   Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X81704; CAA57348.1; -.
DR   EMBL; D49825; BAA08629.1; -.
DR   EMBL; U74486; AAB51214.1; -.
DR   HSSP; P04637; 1YCR.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     59       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN      304    316       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     385    385       PHOSPHORYLATION (BY SIMILARITY).
FT   CONFLICT    380    380       R -> T (IN REF. 2).
SQ   SEQUENCE   386 AA;  43255 MW;  0322BF3D CRC32;

  Query Match           86.5%;  Score 64;  DB 1;  Length 386;
  Best Local Similarity  80.0%;  Pred. No. 2.89e-01;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db     76 TPAPATSWPL 85
          :|||| ||||
Qy      1 APAPAPSWPL 10


RESULT    9
ID   P53_MOUSE      STANDARD;      PRT;   390 AA.
AC   P02340;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53 OR TRP53 OR P53.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 85027173.
RA   BIENZ B., ZAKUT-HOURI R., GIVOL D., OREN M.;
RT   "Analysis of the gene coding for the murine cellular tumour antigen
RT   p53.";
RL   EMBO J. 3:2179-2183(1984).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 84068204.
RA   ZAKUT-HOURI R., OREN M., BIENZ B., LAVIE V., HAZUM S., GIVOL D.;
RT   "A single gene and a pseudogene for the cellular tumour antigen p53.";
RL   Nature 306:594-597(1983).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 84272240.
RA   JENKINS J.R., RUDGE K., REDMOND S., WADE-EVANS A.;
RT   "Cloning and expression analysis of full length mouse cDNA sequences
RT   encoding the transformation associated protein p53.";
RL   Nucleic Acids Res. 12:5609-5626(1984).
RN   [4]
RP   SEQUENCE FROM N.A. (CLONES PCD53; P53-M11 AND P53-M8).
RX   MEDLINE; 87064640.
RA   ARAI N., NOMURA D., YOKOTA K., WOLF D., BRILL E., SHOHAT O.,
RA   ROTTER V.;
RT   "Immunologically distinct p53 molecules generated by alternative
RT   splicing.";
RL   Mol. Cell. Biol. 6:3232-3239(1986).
RN   [5]
RP   SEQUENCE OF 222-258 FROM N.A.
RX   MEDLINE; 92115342.
RA   BURNS P.A., KEMP C.J., GANNON J.V., LANE D.P., BREMNER R.,
RA   BALMAIN A.;
RT   "Loss of heterozygosity and mutational alterations of the p53 gene in
RT   skin tumours of interspecific hybrid mice.";
RL   Oncogene 6:2363-2369(1991).
RN   [6]
RP   PHOSPHORYLATION SITES.
RX   MEDLINE; 86149247.
RA   SAMAD A., ANDERSON C.W., CARROLL R.B.;
RT   "Mapping of phosphomonoester and apparent phosphodiester bonds of the
RT   oncogene product p53 from simian virus 40-transformed 3T3 cells.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:897-901(1986).
RN   [7]
RP   PHOSPHORYLATION SITES.
RX   MEDLINE; 91006019.
RA   MEEK D.W., SIMON S., KIKKAWA U., ECKHART W.;
RT   "The p53 tumour suppressor protein is phosphorylated at serine 389 by
RT   casein kinase II.";
RL   EMBO J. 9:3253-3260(1990).
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; X00876; CAA25420.1; -.
DR   EMBL; X00877; CAA25420.1; JOINED.
DR   EMBL; X00878; CAA25420.1; JOINED.
DR   EMBL; X00879; CAA25420.1; JOINED.
DR   EMBL; X00880; CAA25420.1; JOINED.
DR   EMBL; X00881; CAA25420.1; JOINED.
DR   EMBL; X00882; CAA25420.1; JOINED.
DR   EMBL; X00883; CAA25420.1; JOINED.
DR   EMBL; X00884; CAA25420.1; JOINED.
DR   EMBL; X00885; CAA25420.1; JOINED.
DR   EMBL; K01700; AAA39884.1; -.
DR   EMBL; X01237; CAA25625.1; -.
DR   EMBL; X00741; CAA25323.1; -.
DR   EMBL; M13872; AAA39881.1; -.
DR   EMBL; M13873; AAA39882.1; -.
DR   EMBL; M13874; AAA39883.1; ALT_SEQ.
DR   EMBL; S77930; AAB21108.1; -.
DR   PIR; A02684; DNMS53.
DR   PIR; A22739; A22739.
DR   PIR; S38822; S38822.
DR   HSSP; P04637; 1PET.
DR   TRANSFAC; T01806; -.
DR   MGD; MGI:98834; TRP53.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis; Disease mutation.
FT   DOMAIN        1     75       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN       76    150       HYDROPHOBIC.
FT   DOMAIN      276    390       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                INTERACTION WITH DNA.
FT   DOMAIN      308    320       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     312    312       PHOSPHORYLATION.
FT   MOD_RES     389    389       PHOSPHORYLATION (BY CK2).
FT   VARIANT     135    135       A -> V (CAN COOPERATE WITH AN ACTIVATED
FT                                RAS TO TRANSFORM FIBROBLASTS).
FT   VARIANT     168    168       E -> G (IN CLONE P53-M11).
FT   CONFLICT     48     48       Q -> R (IN REF. 3).
FT   CONFLICT     79     81       PVA -> QW (IN REF. 3).
SQ   SEQUENCE   390 AA;  43458 MW;  8943DD93 CRC32;

  Query Match           85.1%;  Score 63;  DB 1;  Length 390;
  Best Local Similarity  80.0%;  Pred. No. 4.26e-01;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db     81 APAPATPWPL 90
          ||||| :|||
Qy      1 APAPAPSWPL 10


RESULT   10
ID   P53_SPEBE      STANDARD;      PRT;   314 AA.
AC   Q64662;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53 (FRAGMENT).
GN   TP53.
OS   Spermophilus beecheyi (Beechey ground squirrel).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Rodentia; Sciurognathi; Sciuridae; Sciurinae; Spermophilus.
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=THYMUS;
RX   MEDLINE; 95007566.
RA   RIVKINA M.B., CULLEN J.M., ROBINSON W.S., MARION P.L.;
RT   "State of the p53 gene in hepatocellular carcinomas of ground
RT   squirrels and woodchucks with past and ongoing infection with
RT   hepadnaviruses.";
RL   Cancer Res. 54:5430-5437(1994).
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; U43902; AAA85628.1; -.
DR   HSSP; P04637; 1YCS.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation.
FT   NON_TER       1      1
FT   DOMAIN      289    301       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   NON_TER     314    314
SQ   SEQUENCE   314 AA;  34618 MW;  D07F433B CRC32;

  Query Match           81.1%;  Score 60;  DB 1;  Length 314;
  Best Local Similarity  80.0%;  Pred. No. 1.34e+00;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db     62 APTPAISWPL 71
          ||:|| ||||
Qy      1 APAPAPSWPL 10


RESULT   11
ID   P53_FELCA      STANDARD;      PRT;   386 AA.
AC   P41685;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53.
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Carnivora; Fissipedia; Felidae; Felis.
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=LYMPH NODE;
RX   MEDLINE; 94333960.
RA   OKUDA M., UMEDA A., SAKAI T., OHASHI T., MOMOI Y., YOUN H.Y.,
RA   WATARI T., GOITSUKA R., TSUJIMOTO H., HASEGAWA A.;
RT   "Cloning of feline p53 tumor-suppressor gene and its aberration in
RT   hematopoietic tumors.";
RL   Int. J. Cancer 58:602-607(1994).
RN   [2]
RP   SEQUENCE OF 34-354 FROM N.A.
RX   MEDLINE; 94114699.
RA   OKUDA M., UMEDA A., MATSUMOTO Y., MOMOI Y., WATARI T., GOITSUKA R.,
RA   O'BRIEN S.J., TSUJIMOTO H., HASEGAWA A.;
RT   "Molecular cloning and chromosomal mapping of feline p53 tumor
RT   suppressor gene.";
RL   J. Vet. Med. Sci. 55:801-805(1993).
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CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D26608; BAA05653.1; -.
DR   EMBL; D16460; BAA03927.1; -.
DR   HSSP; P04637; 1SAH.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     59       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN      304    316       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     385    385       PHOSPHORYLATION (BY SIMILARITY).
FT   CONFLICT    285    285       K -> R (IN REF. 2).
SQ   SEQUENCE   386 AA;  42692 MW;  D6C7132A CRC32;

  Query Match           81.1%;  Score 60;  DB 1;  Length 386;
  Best Local Similarity  80.0%;  Pred. No. 1.34e+00;
  Matches     8;  Conservative    1;  Mismatches   1;  Indels   0;  Gaps   0;

Db     76 TPAPAISWPL 85
          :|||| ||||
Qy      1 APAPAPSWPL 10


RESULT   12
ID   GNDS_RAT       STANDARD;      PRT;   895 AA.
AC   Q03386;
DT   01-JUN-1994 (Rel. 29, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   GUANINE NUCLEOTIDE DISSOCIATION STIMULATOR RALGDS FORM B (RALGEF).
GN   RALGDS.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=FIBROBLAST;
RX   MEDLINE; 93154339.
RA   ALBRIGHT C.F., GIDDINGS B.W., LIU J., VITO M., WEINBERG R.A.;
RT   "Characterization of a guanine nucleotide dissociation stimulator for
RT   a ras-related GTPase.";
RL   EMBO J. 12:339-347(1993).
RN   [2]
RP   X-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF 778-864.
RX   MEDLINE; 97397345.
RA   HUANG L., WENG X., HOFER F., MARTIN G.S., KIM S.H.;
RT   "Three-dimensional structure of the Ras-interacting domain of
RT   RalGDS.";
RL   Nat. Struct. Biol. 4:609-615(1997).
CC   -!- FUNCTION: STIMULATES THE DISSOCIATION OF GDP FROM THE RAS-RELATED
CC       RALA AND RALB GTPASES WHICH ALLOWS GTP BINDING AND ACTIVATION OF
CC       THE GTPASES. INTERACTS AND ACTS AS AN EFFECTOR MOLECULE FOR R-RAS,
CC       H-RAS, K-RAS, AND RAP.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED.
CC   -!- DOMAIN: THE C-TERMINAL DOMAIN INTERACTS WITH RAS (BY SIMILARITY).
CC   -!- SIMILARITY: CONTAINS 1 RASGEF DOMAIN.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; L07925; AAA41259.1; -.
DR   PDB; 1LXD; 11-MAR-98.
DR   PROSITE; PS00720; GDS_CDC25; 1.
DR   PFAM; PF00617; RasGEF; 1.
DR   PFAM; PF00618; RasGEFN; 1.
DR   PFAM; PF00788; RA; 1.
KW   Guanine-nucleotide releasing factor; 3D-structure.
FT   DOMAIN      768    863       RBD.
SQ   SEQUENCE   895 AA;  98869 MW;  B8F60F3C CRC32;

  Query Match           78.4%;  Score 58;  DB 1;  Length 895;
  Best Local Similarity  80.0%;  Pred. No. 2.82e+00;
  Matches     8;  Conservative    0;  Mismatches   2;  Indels   0;  Gaps   0;

Db    340 APALEPSWPL 349
          |||  |||||
Qy      1 APAPAPSWPL 10


RESULT   13
ID   P53_RAT        STANDARD;      PRT;   391 AA.
AC   P10361; O09168;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53 OR P53.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 89083585.
RA   SOUSSI T.;
RT   "Nucleotide sequence of a cDNA encoding the rat p53 nuclear
RT   oncoprotein.";
RL   Nucleic Acids Res. 16:11384-11384(1988).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE; 93181268.
RA   HULLA J.E., SCHNEIDER R.P.;
RT   "Structure of the rat p53 tumor suppressor gene.";
RL   Nucleic Acids Res. 21:713-717(1993).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=SPRAGUE-DAWLEY;
RA   MATHUPALA S.P.;
RL   Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
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CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------------
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CC   ---------------------------------------------------------------------------
DR   EMBL; X13058; CAA31457.1; -.
DR   EMBL; L07910; AAA41788.1; -.
DR   EMBL; L07904; AAA41788.1; JOINED.
DR   EMBL; L07905; AAA41788.1; JOINED.
DR   EMBL; L07906; AAA41788.1; JOINED.
DR   EMBL; L07907; AAA41788.1; JOINED.
DR   EMBL; L07908; AAA41788.1; JOINED.
DR   EMBL; L07909; AAA41788.1; JOINED.
DR   EMBL; U90328; AAB80959.1; -.
DR   PIR; S02192; S02192.
DR   HSSP; P04637; 1PET.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     76       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN       77    151       HYDROPHOBIC.
FT   DOMAIN      277    391       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                INTERACTION WITH DNA.
FT   DOMAIN      309    321       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     390    390       PHOSPHORYLATION (BY SIMILARITY).
FT   VARIANT     103    103       G -> S.
FT   VARIANT     256    256       E -> G.
FT   CONFLICT    174    174       C -> W (IN REF. 2).
SQ   SEQUENCE   391 AA;  43451 MW;  E0114C18 CRC32;

  Query Match           75.7%;  Score 56;  DB 1;  Length 391;
  Best Local Similarity  70.0%;  Pred. No. 5.86e+00;
  Matches     7;  Conservative    2;  Mismatches   1;  Indels   0;  Gaps   0;

Db     82 APASATPWPL 91
          |||:| :|||
Qy      1 APAPAPSWPL 10


RESULT   14
ID   P53_CRIGR      STANDARD;      PRT;   393 AA.
AC   O09185; Q64397; P97258; P97788;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53 OR P53.
OS   Cricetulus griseus (Chinese hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae; Cricetulus.
RN   [1]
RP   SEQUENCE FROM N.A.
RA   CHAUNG W., MI L.J., BOORSTEIN R.J.;
RL   Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=LIVER;
RX   MEDLINE; 97183659.
RA   LEE H., LARNER J.M., HAMLIN J.L.;
RT   "Cloning and characterization of Chinese hamster p53 cDNA.";
RL   Gene 184:177-183(1997).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=EMBRYONIC FIBROBLAST;
RA   SHIMIZU T., NIKAIDO O., SUZUKI F.;
RL   Submitted (JUN-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; Y08900; CAA70108.1; -.
DR   EMBL; Y08901; CAA70109.1; -.
DR   EMBL; U50395; AAC53040.1; -.
DR   EMBL; D86070; BAA13004.1; -.
DR   HSSP; P04637; 1YCQ.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     74       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN       75    150       HYDROPHOBIC.
FT   DOMAIN      316    390       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                INTERACTION WITH DNA.
FT   DOMAIN      311    323       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     392    392       PHOSPHORYLATION (BY SIMILARITY).
FT   VARIANT     133    133       L -> Q (IN CELL LINE V79-4).
FT   VARIANT     135    135       C -> W (IN CELL LINE V79-4).
FT   CONFLICT    103    103       Y -> F (IN REF. 2).
SQ   SEQUENCE   393 AA;  43378 MW;  402EB149 CRC32;

  Query Match           75.7%;  Score 56;  DB 1;  Length 393;
  Best Local Similarity  70.0%;  Pred. No. 5.86e+00;
  Matches     7;  Conservative    2;  Mismatches   1;  Indels   0;  Gaps   0;

Db     84 ASAPATPWPL 93
          |:||| :|||
Qy      1 APAPAPSWPL 10


RESULT   15
ID   P53_MESAU      STANDARD;      PRT;   396 AA.
AC   Q00366; P97276;
DT   01-DEC-1992 (Rel. 24, Created)
DT   01-DEC-1992 (Rel. 24, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   CELLULAR TUMOR ANTIGEN P53.
GN   TP53.
OS   Mesocricetus auratus (Golden hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC   Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae; Mesocricetus.
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=SYRIAN; TISSUE=KIDNEY;
RX   MEDLINE; 92210007.
RA   LEGROS Y., MCINTYRE P., SOUSSI T.;
RT   "The cDNA cloning and immunological characterization of hamster p53.";
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RL   Gene 112:247-250(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   HOU E.W., WISEMAN R.;
RL   Submitted (APR-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: ACT AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC       GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC       CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC       TUMOR SUPPRESSION. IT ACTS IN CELL CYCLE REGULATION, IT IS A
CC       TRANS-ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELLULAR DIVISION
CC       BY CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF
CC       THE GENES ACTIVATED IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC       APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC       BAX AND FAS ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC       EXPRESSION.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR.
CC   -!- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC       OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC       IN MANY TYPES OF CANCER.
CC   -!- SIMILARITY: BELONGS TO THE P53 FAMILY.
CC   ---------------------------------------------------------------------
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CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M75144; AAA37085.1; -.
DR   EMBL; U07182; AAB41344.1; -.
DR   PIR; JH0633; JH0633.
DR   HSSP; P04637; 1YCQ.
DR   PROSITE; PS00348; P53; 1.
DR   PFAM; PF00870; P53; 1.
KW   Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW   Nuclear protein; Phosphorylation; Apoptosis.
FT   DOMAIN        1     77       ASP/GLU-RICH (ACIDIC).
FT   DOMAIN       78    153       HYDROPHOBIC.
FT   DOMAIN      319    393       HIGHLY BASIC AND MAY BE INVOLVED IN
FT                                INTERACTION WITH DNA.
FT   DOMAIN      314    326       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   MOD_RES     395    395       PHOSPHORYLATION (BY SIMILARITY).
FT   CONFLICT    188    188       G -> S (IN REF. 2).
SQ   SEQUENCE   396 AA;  43631 MW;  C2668ADE CRC32;

  Query Match           75.7%;  Score 56;  DB 1;  Length 396;
  Best Local Similarity  70.0%;  Pred. No. 5.86e+00;
  Matches     7;  Conservative    2;  Mismatches   1;  Indels   0;  Gaps   0;

Db      87 ASAPATPWPL 96
           |:||| :|||
Qy       1 APAPAPSWPL 10


Search completed: Sat Apr 15 00:22:30 2000
Job time : 40 secs.
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